

REMARKS

Claims 77, 79-82, 86-87, 93-96, and 102-111 are indicated to recite allowable subject matter. Applicants greatly appreciate the indication of allowable subject matter in the present application.

Applicants hereby add new claims 112-115. Accordingly, claims 74-115 are pending in the present application.

Claims 74-75, 78, 83-85, and 88-92 stand rejected under 35 U.S.C. 102(b) for anticipation by U.S. Patent No. 5,710,478 to Kanemaru et al. Claim 76 stands rejected under 35 U.S.C. 103 for obviousness over Kanemura in view of U.S. Patent No. 6,329,258 B1 to Inaba. Claims 97-101 stand rejected under 35 U.S.C. 103 for obviousness over Kanemura in view of Inaba and further in view of U.S. Patent No. 6,140,167 to Gardner et al.

Applicants respectfully traverse the rejections and urge allowance of the present application.

Referring to the anticipation rejections, Applicant notes the requirements of MPEP §2131 (8<sup>th</sup> ed., rev. 2), which states that TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM. The **identical invention** must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). **The elements must be arranged as required by the claim.** *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Claim 74 recites that the claimed *providing a drain semiconductive region comprises providing at least one emitter*. At page 2 of the Action, it is alleged that reference 22 of Kanemaru corresponds to the claimed drain semiconductive region. However, the teachings of Kanemaru make clear that reference 13 corresponds to an *emitter which is built on a surface of the drain region 22* (co. 2, lines 62+). Kanemaru clearly discloses the formation of two structures, the emitter 13 and the drain region 22, which are separate from one another inasmuch as the *emitter 13 is built upon the surface of the drain region 22*. *Building emitter 13 upon a surface of the drain region is contrary to the providing the drain semiconductive region comprises providing at least one emitter as positively claimed.* The interpretation of the Kanemaru teachings of the emitter 13 and the drain region 22 being the same is contrary to the explicit teachings of the Kanemaru reference. Applicant respectfully submits that Kanemaru fails to *teach limitations which are arranged as recited by claim 74* including the providing the drain semiconductive region comprises providing the at least one emitter. Applicant respectfully submits the rejection of claim 74 is improper for at least this reason.

In addition, to constitute an anticipatory reference, the prior art must contain an enabling disclosure. *Chester v. Miller*, 906 F.2d at 1546 n.2, 15 U.S.P.Q.2d at 1336 n.2 (Fed. Cir. 1990); see also *Titanium Metals Corp. of America v. Banner*, 778 F.2d at 781, 227 U.S.P.Q. at 778 (Fed. Cir. 1985); *Scripps Clinic & Research Found. V. Genentech, Inc.*, 927 F.2d 1565, 1578, 18 U.S.P.Q.2d 1001, 1011 (Fed. Cir. 1991); *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 U.S.P.Q.2d 1299 (Fed. Cir. 2000) citing *In re Donohue*, 766

F.2d 531, 533,226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). The requirement that an enabling disclosure place the public in possession of the invention is consistent with the fundamental purpose of the patent law to promote the sciences and useful arts through the disclosure of useful knowledge. *Akzo N. V. v. U. S. Int'l Trade Comm'n*, 808 F.2d at 1479, 1 U.S.P.Q.2d at 1245 cert. denied, 482 U.S. 909 (1987).

Applicant notes the requirements of MPEP §2121.01 (8<sup>th</sup> ed., rev. 2), entitled "Use of Prior Art in Rejections Where Operability Is In Question". This MPEP section states that "in determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'. *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). A reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention.

Emitter 13 and the drain region 22 are illustrated in Figs. 7A and 7B. However, the discussion of Figs. 7A and 7B at col. 2, lines 48+ of Kanemaru indicate that a satisfactory structure for implementing the principle described in col. 2, lines 32-48 referring to the emissions from emitter 13 was not available as of the filing of the Kanemaru application. Applicant respectfully submits that MPEP 2121.01 provides that the mere naming or description of claimed subject matter is insufficient. There is no evidence of record that Figs. 7A and 7B can be produced without undue experimentation and Applicant respectfully submits that the rejection of claim 74 is improper for at least this additional reason. Applicant requests allowance in the next Action.

The claims which depend from independent claim 74 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, referring to dependent claim 75, Applicant has failed to locate teachings in Kanemaru which teach that the base member 11 is a thin film semiconductive layer. Applicant respectfully submits the teachings of col. 1, lines 30+ of Kanemaru of base member 11 serving as a physical support fails to teach or suggest the claimed thin film layer and claim 75 is allowable for this additional reason.

Referring to claim 78, Kanemaru teaches plural gates 14, 25. Gate 14 is provided above and about emitter 13 and is not provided over the channel 23. Gate 25 over the channel 23 is not provided about the emitter 13. Further, gates 14, 25 are disclosed as being coupled with different voltages Vc and Vg. Accordingly, the teachings of the plural different gates 14, 25 fail to disclose or suggest the gate of claim 78 provided *over the channel region and about the emitter as claimed*. Claim 78 is allowable for this additional reason.

Referring to claim 83, it is stated on page 3 of the Action that references 22, 11 of Kanemaru disclose providing one of the semiconductive regions 22 comprising an emitter (labeled as 11 in the Office Action but apparently should be reference 13) as is disclosed in Kamemaru. However, as set forth above, Kanemaru clearly discloses that emitter 13 is formed upon a surface of the semiconductive region 22. Applicant respectfully submits that the formation of a structure upon another structure fundamentally fails to teach limitations

as arranged in claim 83 including the providing one of the semiconductive regions comprising an emitter. Applicant respectfully submits that claim 83 is allowable for at least this compelling reason.

Further, Applicant respectfully submits that there is no evidence that the teachings of the embodiments of Figs. 7A and 7B are enabled, and to the contrary, Kanemaru states that a satisfactory device structure for implementing the principle of Figs. 7A and 7B referring to the emissions from emitter 13 was not available as of the filing of the Kanemaru application. Applicant respectfully submits that there is no evidence of record that the teachings of Kanemaru relied upon in support of the rejection of claim 83 are enabled and claim 83 is allowable for this additional reason.

The claims which depend from independent claim 83 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 89, Kanemaru discloses semiconductive regions 21, 22 within substrate 11. Kanemaru also discloses an emitter 13 formed upon a top surface of semiconductive region 22. The formation of the emitter 13 upon the surface of the semiconductive region fails to disclose or suggest providing plural semiconductive regions and *at least one of the semiconductive regions comprises an emitter*. Kanemaru fails to disclose or suggest limitations arranged as recited in claim 89 and the rejection of claim 89 is improper for at least this reason. Applicant also respectfully submits that there is no evidence of record that Figs. 7A and 7B of Kanemaru are enabled and the explicit

reference teachings state that a satisfactory device structure for implementing the principle of Figs. 7A and 7B referring to the emissions from emitter 13 was not available as of the filing of the Kanemaru application. Applicant respectfully submits that the teachings of Figs. 7A and 7B are not enabled and the rejection over these teachings of Kanemaru is improper for at least this additional reason. Applicant requests allowance of claim 89 in the next Action.

The claims which depend from independent claim 89 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to the 103 rejection of claim 97, Applicant notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, e.g., MPEP §2143 (8<sup>th</sup> ed., rev. 2).

Applicant respectfully submits there is no motivation to combine the teachings of Inaba or Gardner with the teachings of Kanemaru and the rejection of claim 97 is improper for at least this reason. More specifically, The Federal Circuit discussed proper motivation in *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). The motivation identified in the Office Action is akin to the conclusory statements set forth in *In re Lee* which were found to fail to

provide the requisite motivation to support an obviousness rejection. The Court in *In re Lee* stated the factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. The Court in *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) stated motivation is provided only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. The *Lee* Court stated that the Examiner's conclusory statements in the *Lee* case do not adequately address the issue of motivation to combine. The Court additionally stated that the factual question of motivation is material to patentability and can not be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references cannot be remedied by general conclusions about what is basic knowledge or common sense. The Court further stated that the determination of patentability must be based on evidence.

In the instant case, the record is entirely devoid of any evidence to support motivation to combine the teachings apart from the bald conclusory statements of the Examiner which are insufficient for proper motivation as set forth by the Federal Circuit. The Office cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims but must set forth objective rationale on which it relied.

More specifically, referring to page 4 of the Action in support of the combination of teachings of Inaba with teachings of Kanemaru, it is stated that the combination is

appropriate "as is useful in the fabrication of microelectronic devices." On page 5 of the Action, the Office states the motivation to combine the teachings of Gardner is "for fabrication field effect transistor device." Applicants submit that statements set forth in the present Office Action are akin to the alleged improper motivation discussed *In re Lee* and accordingly are insufficient to combine the reference teachings. The only motivation presented in the Office Action is based upon *the Examiner's subjective belief or unknown authority which is insufficient as clearly held by the applicable authority.* As set forth by the Federal Circuit, there is no motivation and the Office Action has failed to establish a *prima facie* case of obviousness and accordingly the 103 rejection is improper.

Applicants submits that the alleged motivation presented by the Examiner would open the door to combinations of any art which are allegedly useful in or merely related to the fabrication of microelectronic devices with absolutely no evidence or objective support apart from the bald, conclusory statements of the Examiner. *This is contrary to the authority of the Federal Circuit that motivation may not be based upon the subjective belief of the Examiner or unknown authority.* The 103 rejection of claim 97 is improper for at least this reason.

Applicant submits that there is no evidence of record that there are deficiencies with respect to the fabrication teachings of the Kanemaru disclosure or that any improvement to the structures of Kanemaru would result if the teachings of Kanemaru were modified by either Inaba or Gardner as alleged by the Office. With respect to the motivation of

combining the Gardner teachings, Applicant submits that the mere fact that Gardner relates to fabrication of field effect transistors is insufficient to *motivate one to combine the teachings* as claimed. Applicant respectfully submits that the only motivation results from Applicant's disclosure or the subjective opinion of the Examiner which are insufficient to support a proper 103 rejection. Applicant respectfully requests allowance of claim 97 for at least this reason.

Further, even if the teachings of Gardner are combined, the combination fails to disclose or suggest the claimed limitations and claim 97 is allowable for this additional reason. More specifically, claim 97 recites *providing the gate comprises aligning the gate with the channel region using the gate dielectric layer*. The teachings of col. 1 of Gardner relied upon by the Office merely relate to *self-alignment teachings of the source and drain relative to the gate using the gate* and fails to disclose or suggest *alignment of the gate with the channel region using the gate dielectric region*. Applicant respectfully submits that the rejection of claim 97 is improper for at least this additional reason.

The claims which depend from independent claim 97 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, referring to claim 100, the Office has failed to identify any teachings in the art corresponding to the limitations of claim 100 and Applicant has failed to uncover any teachings of the claimed limitations. Applicant respectfully submit the providing of the gate comprising forming the gate layer over the gate dielectric layer and the aligning

comprises removing portions of the gate dielectric layer and the gate layer are not disclosed nor suggested by the art and claim 100 is allowable for at least this reason.

Applicants have identified herein numerous claimed limitations which are not disclosed nor suggested by the teachings of the prior art identified by the Office. In the event that a rejection of the claims is maintained with respect to the prior art, or a new rejection made, Applicants respectfully request identification *in a non-final action* of elements which allegedly correspond to limitations of the claims in accordance with 37 C.F.R §1.104(c)(2). In particular, 37 C.F.R §1.104(c)(2) provides that *the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified*. Further, 37 C.F.R. §1.104(c)(2) states that the Examiner must cite the best references at their command. *When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable*. Applicants respectfully request clarification of the rejections with respect to specific references and specific reference teachings therein pursuant to 37 C.F.R. §1.104(c)(2) in a non-final Action if any claims are not found to be allowable.

New claims 112-115 are supported at least by the teachings of Fig. 13 and the associated specification teachings of the originally-filed application.

Applicants request allowance of all pending claims.

Appl. No. 10/072,415  
Amdt. dated 04/15/2005  
Response to Office Action mailed 12/15/2004

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 4/15/05

By:   
James D. Shaurette  
Reg. No. 39,833